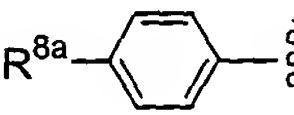
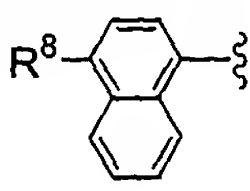


AMENDMENTS TO THE CLAIMS

1. (canceled)

2. (currently amended) ~~A compound of claim 1~~ The method of claim 27  
wherein  $R^a$  is  $R^{8a}$ -phenyl or  $R^8$ -naphthyl.

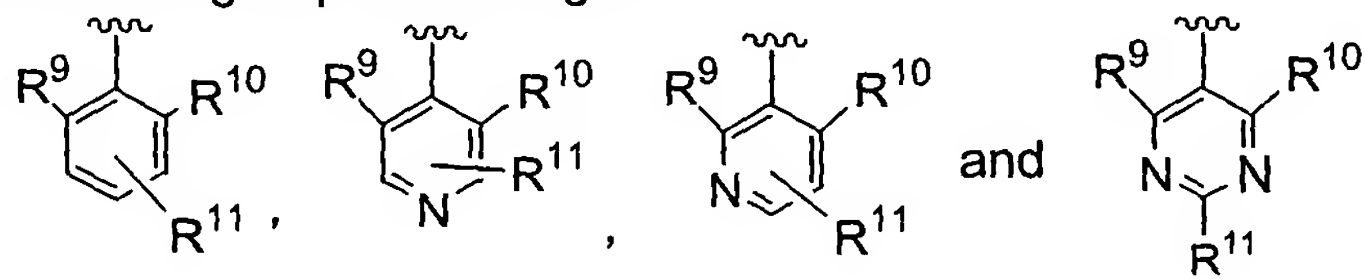
3. (currently amended) ~~A compound~~ The method of claim 2 wherein  $R^a$  is  
 , wherein  $R^{8a}$  is  $-\text{CF}_3$ ,  $\text{CF}_3\text{O}-$  or halogen; or  $R^a$  is   
wherein  $R^8$  is  $\text{C}_1\text{-C}_6$  alkoxy.

4. (currently amended) ~~A compound of claim 1~~ The method of claim 27  
wherein  $R^3$  is hydrogen,  $(\text{C}_1\text{-C}_6)$  alkyl,  $R^8$ -phenyl,  $R^8$ -benzyl or  $R^8$ -pyridyl.

5. (currently amended) ~~A compound of claim 1~~ The method of claim 27  
wherein  $R^1$  is hydrogen;  $R^6$  is hydrogen or methyl;  $R^4$  is methyl; and  $R^5$  and  $R^7$  are each hydrogen.

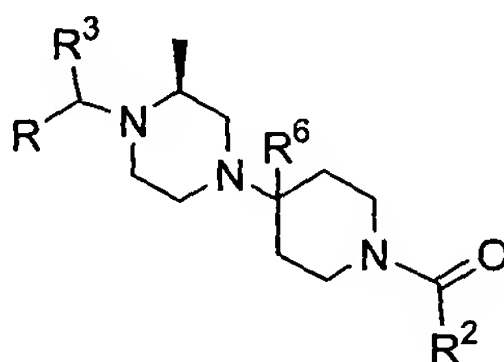
6. (currently amended) ~~A compound of claim 1~~ The method of claim 27  
wherein  $R^2$  is  $R^9, R^{10}, R^{11}$ -phenyl;  $R^9, R^{10}, R^{11}$ -pyridyl or an N-oxide thereof; or  $R^9, R^{10}, R^{11}$ -pyrimidyl.

7. (currently amended) ~~A compound~~ The method of claim 6 wherein  $R^2$  is selected from the group consisting of



wherein  $R^9$  and  $R^{10}$  are selected from the group consisting of  $(\text{C}_1\text{-C}_6)$ alkyl, halogen,  $-\text{OH}$  and  $-\text{NH}_2$ .

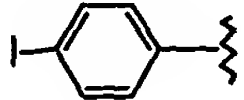

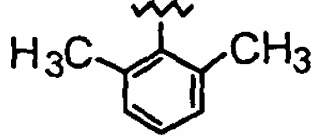
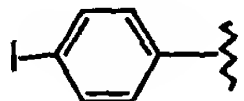

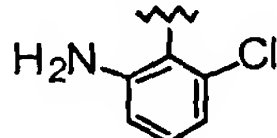


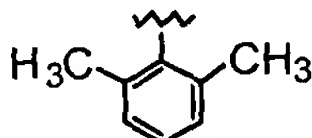


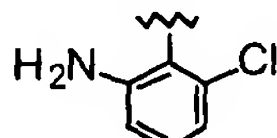


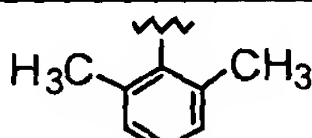
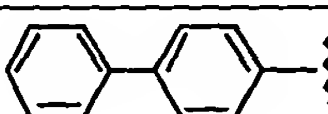

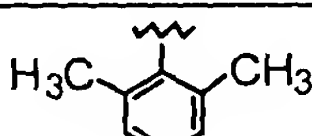


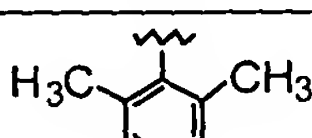
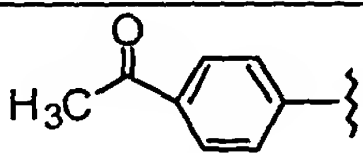

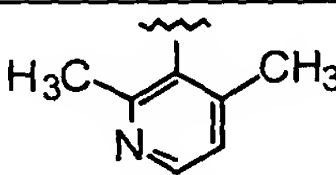
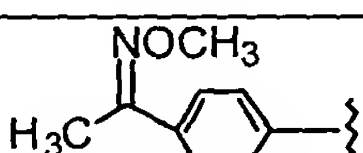

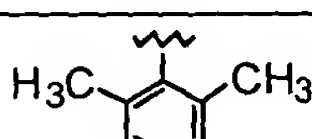
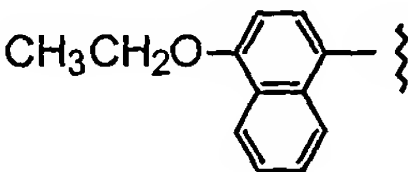
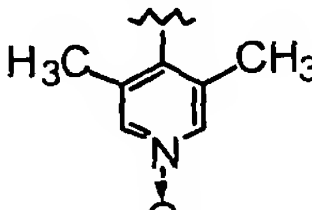
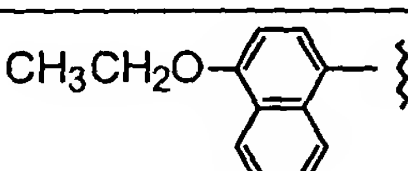
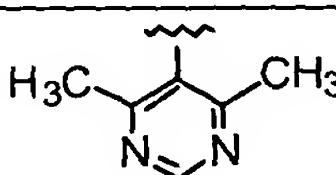
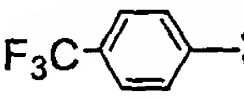

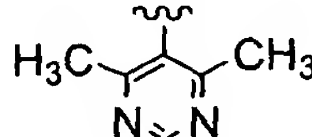
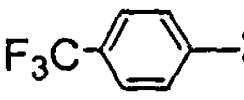
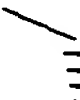
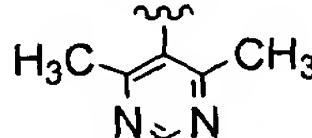
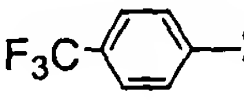

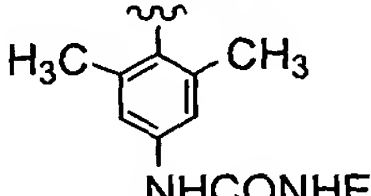
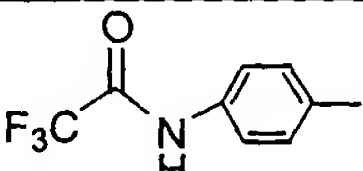

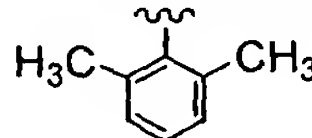
8. (currently amended) ~~A compound~~ The method of claim 27 wherein the CCR5 compound is selected from the group consisting of those represented by the structural formula



wherein R, R<sup>3</sup>, R<sup>6</sup> and R<sup>2</sup> are as defined in the following table:

R	R <sup>3</sup>	R <sup>6</sup>	R <sup>2</sup>
		H	
		-CH <sub>3</sub>	
		H	
		H	
		H	
		H	
		-CH <sub>3</sub>	
		-CH <sub>3</sub>	
		-CH <sub>3</sub>	
		-CH <sub>3</sub>	

		-CH <sub>3</sub>	
		-CH <sub>3</sub>	
		H	
		H	
		-CH <sub>3</sub>	
		-CH <sub>3</sub>	
		-CH <sub>3</sub>	
		-CH <sub>3</sub>	
		-CH <sub>3</sub>	
	H	-CH <sub>3</sub>	
	H	-CH <sub>3</sub>	
	H	-CH <sub>3</sub>	
	H	-CH <sub>3</sub>	
		-CH <sub>3</sub>	
	H	H	

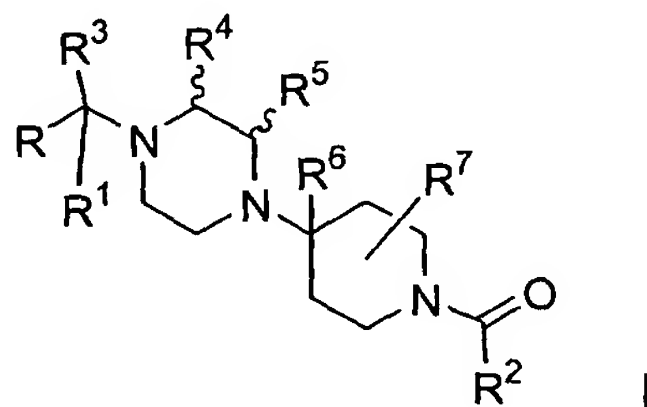
		H	
		-CH <sub>3</sub>	
		H	
		-CH <sub>3</sub>	
		H	
		H	
		H	
		H	
		-CH <sub>3</sub>	
	H	-CH <sub>3</sub>	
	H	-CH <sub>3</sub>	
		-CH <sub>2</sub> CH <sub>3</sub>	
		-CH <sub>2</sub> CH <sub>3</sub>	
		-CH <sub>2</sub> CH <sub>3</sub>	
		-CH <sub>3</sub>	

		-CH <sub>3</sub>	
		-CH <sub>3</sub>	
		-CH <sub>3</sub>	
		-CH <sub>3</sub>	
		-CH <sub>3</sub>	
		-CH <sub>3</sub>	
		-CH <sub>3</sub>	
		-CH <sub>3</sub>	
		-CH <sub>3</sub>	
		-CH <sub>3</sub>	
		-CH <sub>3</sub>	
		-CH <sub>3</sub>	

9. to 14. (canceled)

15. A method of treating Human Immunodeficiency Virus, solid organ transplant rejection, graft v. host disease, arthritis, rheumatoid arthritis,

inflammatory bowel disease, atopic dermatitis, psoriasis, asthma, allergies or multiple sclerosis, comprising administering to a human in need of such treatment a therapeutically effective amount of a CCR5 antagonist of the structural formula I:

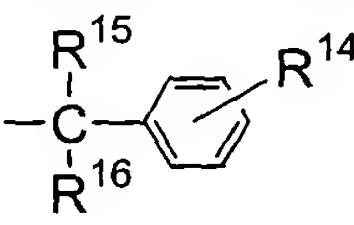
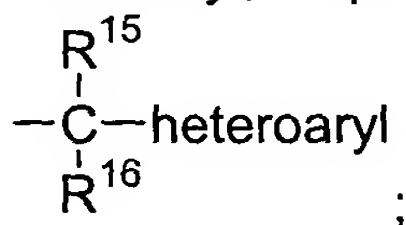


or a pharmaceutically acceptable salt thereof, wherein

R is R<sup>8</sup>-phenyl, R<sup>8</sup>-pyridyl, R<sup>8</sup>-thiophenyl or R<sup>8</sup>-naphthyl;

R<sup>1</sup> is hydrogen or C<sub>1</sub>-C<sub>6</sub> alkyl;

R<sup>2</sup> is R<sup>9</sup>, R<sup>10</sup>, R<sup>11</sup>-phenyl; R<sup>9</sup>, R<sup>10</sup>, R<sup>11</sup>-substituted 6-membered heteroaryl; R<sup>9</sup>, R<sup>10</sup>, R<sup>11</sup>-substituted 6-membered heteroaryl N-oxide; R<sup>12</sup>, R<sup>13</sup>-substituted 5-membered heteroaryl; naphthyl; fluorenyl;

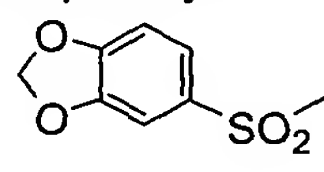
diphenylmethyl  or  ;

R<sup>3</sup> is hydrogen, C<sub>1</sub>-C<sub>6</sub> alkyl, (C<sub>1</sub>-C<sub>6</sub>)alkoxy(C<sub>1</sub>-C<sub>6</sub>)alkyl, C<sub>3</sub>-C<sub>10</sub> cycloalkyl, C<sub>3</sub>-C<sub>10</sub> cycloalkyl(C<sub>1</sub>-C<sub>6</sub>)alkyl, R<sup>8</sup>-phenyl, R<sup>8</sup>-phenyl(C<sub>1</sub>-C<sub>6</sub>)alkyl, R<sup>8</sup>-naphthyl, R<sup>8</sup>-naphthyl(C<sub>1</sub>-C<sub>6</sub>)alkyl, R<sup>8</sup>-heteroaryl or R<sup>8</sup>-heteroaryl(C<sub>1</sub>-C<sub>6</sub>)alkyl;

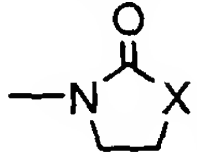
R<sup>4</sup>, R<sup>5</sup>, R<sup>7</sup> and R<sup>13</sup> are independently selected from the group consisting of hydrogen and (C<sub>1</sub>-C<sub>6</sub>)-alkyl;

R<sup>6</sup> is hydrogen, C<sub>1</sub>-C<sub>6</sub> alkyl or C<sub>2</sub>-C<sub>6</sub> alkenyl;

R<sup>8</sup> is 1 to 3 substituents independently selected from the group consisting of hydrogen, halogen, C<sub>1</sub>-C<sub>6</sub> alkyl, C<sub>1</sub>-C<sub>6</sub> alkoxy, -CF<sub>3</sub>, CF<sub>3</sub>O-, CH<sub>3</sub>C(O)-, -CN, CH<sub>3</sub>SO<sub>2</sub>-, CF<sub>3</sub>SO<sub>2</sub>-, R<sup>14</sup>-phenyl, R<sup>14</sup>-benzyl,

CH<sub>3</sub>C(=NOCH<sub>3</sub>), CH<sub>3</sub>C(=NOCH<sub>2</sub>CH<sub>3</sub>), , -NH<sub>2</sub>, -NHCOCF<sub>3</sub>,

-NHCONH(C<sub>1</sub>-C<sub>6</sub> alkyl), -NHCO(C<sub>1</sub>-C<sub>6</sub> alkyl), -NHSO<sub>2</sub>(C<sub>1</sub>-C<sub>6</sub> alkyl),

5-membered heteroaryl and , wherein X is -O-, -NH- or -N(CH<sub>3</sub>)-;

R<sup>9</sup> and R<sup>10</sup> are independently selected from the group consisting of (C<sub>1</sub>-C<sub>6</sub>)alkyl, halogen, -NR<sup>17</sup>R<sup>18</sup>, -OH, -CF<sub>3</sub>, -OCH<sub>3</sub>, -O-acyl, -OCF<sub>3</sub> and -Si(CH<sub>3</sub>)<sub>3</sub>;

R<sup>11</sup> is R<sup>9</sup>, hydrogen, phenyl, -NO<sub>2</sub>, -CN, -CH<sub>2</sub>F, -CHF<sub>2</sub>, -CHO, -CH=NOR<sup>17</sup>, pyridyl, pyridyl N-oxide, pyrimidinyl, pyrazinyl, -N(R<sup>17</sup>)CONR<sup>18</sup>R<sup>19</sup>, -NHCONH(chloro-(C<sub>1</sub>-C<sub>6</sub>)alkyl), -NHCONH((C<sub>3</sub>-C<sub>10</sub>)cycloalkyl(C<sub>1</sub>-C<sub>6</sub>)alkyl), -NHCO(C<sub>1</sub>-C<sub>6</sub>)alkyl, -NHCOCF<sub>3</sub>, -NHSO<sub>2</sub>N((C<sub>1</sub>-C<sub>6</sub>)alkyl)<sub>2</sub>, -NHSO<sub>2</sub>(C<sub>1</sub>-C<sub>6</sub>)alkyl, -N(SO<sub>2</sub>CF<sub>3</sub>)<sub>2</sub>, -NHCO<sub>2</sub>(C<sub>1</sub>-C<sub>6</sub>)alkyl, C<sub>3</sub>-C<sub>10</sub> cycloalkyl, -SR<sup>20</sup>, -SOR<sup>20</sup>, -SO<sub>2</sub>R<sup>20</sup>, -SO<sub>2</sub>NH(C<sub>1</sub>-C<sub>6</sub> alkyl), -OSO<sub>2</sub>(C<sub>1</sub>-C<sub>6</sub>)alkyl, -OSO<sub>2</sub>CF<sub>3</sub>, hydroxy(C<sub>1</sub>-C<sub>6</sub>)alkyl, -CON R<sup>17</sup>R<sup>18</sup>, -CON(CH<sub>2</sub>CH<sub>2</sub>-O-CH<sub>3</sub>)<sub>2</sub>, -OCONH(C<sub>1</sub>-C<sub>6</sub>)alkyl, -CO<sub>2</sub>R<sup>17</sup>, -Si(CH<sub>3</sub>)<sub>3</sub> or -B(OC(CH<sub>3</sub>)<sub>2</sub>)<sub>2</sub>;

R<sup>12</sup> is (C<sub>1</sub>-C<sub>6</sub>)alkyl, -NH<sub>2</sub> or R<sup>14</sup>-phenyl;

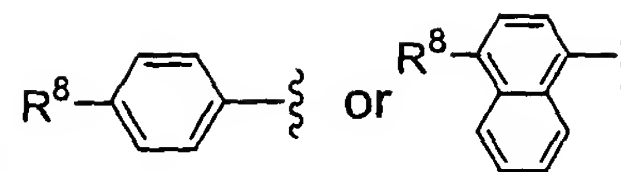
R<sup>14</sup> is 1 to 3 substituents independently selected from the group consisting of hydrogen, (C<sub>1</sub>-C<sub>6</sub>) alkyl, -CF<sub>3</sub>, -CO<sub>2</sub>R<sup>17</sup>, -CN, (C<sub>1</sub>-C<sub>6</sub>)alkoxy and halogen;

R<sup>15</sup> and R<sup>16</sup> are independently selected from the group consisting of hydrogen and C<sub>1</sub>-C<sub>6</sub> alkyl, or R<sup>15</sup> and R<sup>16</sup> together are a C<sub>2</sub>-C<sub>5</sub> alkylene group and with the carbon to which they are attached form a spiro ring of 3 to 6 carbon atoms;

R<sup>17</sup>, R<sup>18</sup> and R<sup>19</sup> are independently selected from the group consisting of H and C<sub>1</sub>-C<sub>6</sub> alkyl; and

R<sup>20</sup> is C<sub>1</sub>-C<sub>6</sub> alkyl or phenyl.

16. The method of claim 15 wherein R is R<sup>8</sup>-phenyl or R<sup>8</sup>-naphthyl.



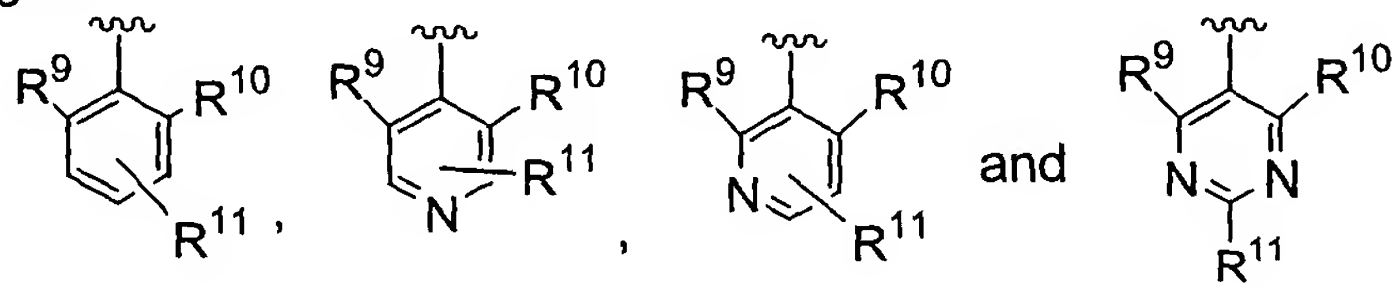
17. The method of claim 16 wherein R is

18. The method of claim 15 wherein R<sup>3</sup> is hydrogen, (C<sub>1</sub>-C<sub>6</sub>) alkyl, R<sup>8</sup>-phenyl, R<sup>8</sup>-benzyl or R<sup>8</sup>-pyridyl.

19. The method of claim 15 wherein R<sup>1</sup> is hydrogen and R<sup>6</sup> is hydrogen or methyl.

20. The method of claim 15 wherein R<sup>2</sup> is R<sup>9</sup>, R<sup>10</sup>, R<sup>11</sup>-phenyl; R<sup>9</sup>, R<sup>10</sup>, R<sup>11</sup>-pyridyl or an N-oxide thereof, or R<sup>9</sup>, R<sup>10</sup>, R<sup>11</sup>-pyrimidyl.

21. The method of claim 20 wherein R<sup>2</sup> is selected from the group consisting of



wherein R<sup>9</sup> and R<sup>10</sup> are selected from the group consisting of (C<sub>1</sub>-C<sub>6</sub>)alkyl, halogen, -OH and -NH<sub>2</sub>.

22. The method of claim 21 wherein R<sup>2</sup> is phenyl or pyridyl and R<sup>11</sup> is hydrogen, or wherein R<sup>2</sup> is pyrimidyl and R<sup>11</sup> is hydrogen, methyl or phenyl.

23. and 24. (cancelled)

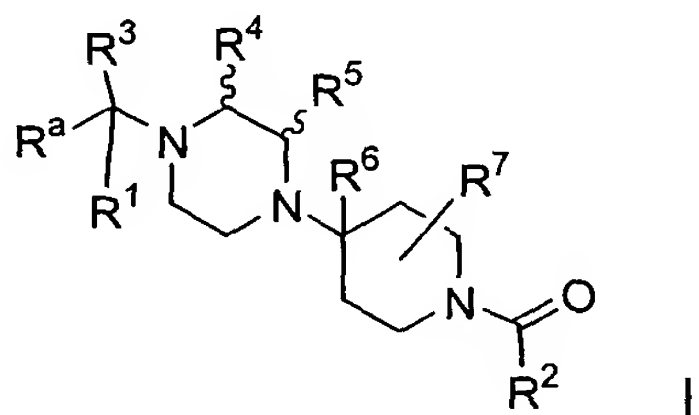
25. The method of claim 15 for the treatment of solid organ transplant rejection, graft v. host disease, inflammatory bowel disease, rheumatoid



arthritis or multiple sclerosis, further comprising one or more other agents useful in the treatment of said diseases.

26. cancelled.

27. (New) A method treating solid organ transplant rejection, graft v. host disease, inflammatory bowel disease, rheumatoid arthritis or multiple sclerosis comprising administering to a human in need of such treatment a therapeutically effective amount of a CCR5 antagonist of the structural formula II

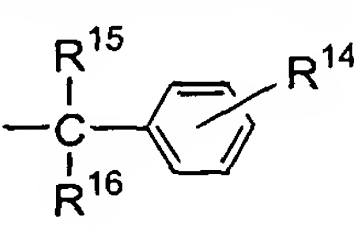
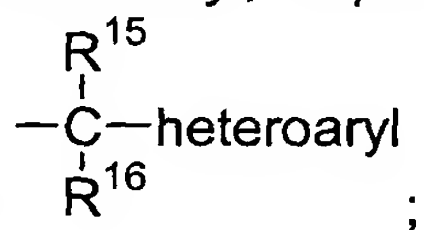


or a pharmaceutically acceptable salt thereof, wherein

(1)  $R^a$  is  $R^{8a}$ -phenyl,  $R^{8b}$ -pyridyl,  $R^{8b}$ -thiophenyl or  $R^8$ -naphthyl;

$R^1$  is hydrogen or  $C_1$ - $C_6$  alkyl;

$R^2$  is  $R^9$ ,  $R^{10}$ ,  $R^{11}$ -phenyl;  $R^9$ ,  $R^{10}$ ,  $R^{11}$ -substituted 6-membered heteroaryl;  $R^9$ ,  $R^{10}$ ,  $R^{11}$ -substituted 6-membered heteroaryl N-oxide;  $R^{12}$ ,  $R^{13}$ -substituted 5-membered heteroaryl; naphthyl; fluorenyl;

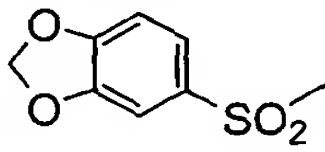
diphenylmethyl,  or  ;

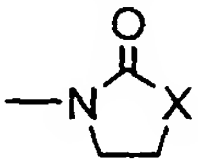
$R^3$  is hydrogen,  $C_1$ - $C_6$  alkyl,  $(C_1$ - $C_6)$ alkoxy $(C_1$ - $C_6)$ alkyl,  $C_3$ - $C_{10}$  cycloalkyl,  $C_3$ - $C_{10}$  cycloalkyl $(C_1$ - $C_6)$ alkyl,  $R^8$ -phenyl,  $R^8$ -phenyl $(C_1$ - $C_6)$ alkyl,  $R^8$ -naphthyl,  $R^8$ -naphthyl $(C_1$ - $C_6)$ alkyl,  $R^8$ -heteroaryl or  $R^8$ -heteroaryl $(C_1$ - $C_6)$ alkyl;

R<sup>4</sup>, R<sup>5</sup>, R<sup>7</sup> and R<sup>13</sup> are independently selected from the group consisting of hydrogen and (C<sub>1</sub>-C<sub>6</sub>)-alkyl;

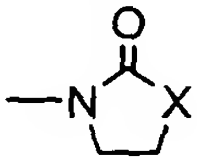
R<sup>6</sup> is hydrogen, C<sub>1</sub>-C<sub>6</sub> alkyl or C<sub>2</sub>-C<sub>6</sub> alkenyl;

R<sup>8</sup> is 1 to 3 substituents independently selected from the group consisting of hydrogen, halogen, C<sub>1</sub>-C<sub>6</sub> alkyl, C<sub>1</sub>-C<sub>6</sub> alkoxy, -CF<sub>3</sub>, CF<sub>3</sub>O-, CH<sub>3</sub>C(O)-, -CN, CH<sub>3</sub>SO<sub>2</sub>-, CF<sub>3</sub>SO<sub>2</sub>-, R<sup>14</sup>-phenyl, R<sup>14</sup>-benzyl,

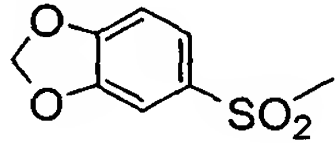
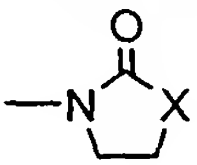
CH<sub>3</sub>C(=NOCH<sub>3</sub>), CH<sub>3</sub>C(=NOCH<sub>2</sub>CH<sub>3</sub>), , -NH<sub>2</sub>, -NHCOCF<sub>3</sub>, -NHCONH(C<sub>1</sub>-C<sub>6</sub> alkyl), -NHCO(C<sub>1</sub>-C<sub>6</sub> alkyl), -NHCO<sub>2</sub>(C<sub>1</sub>-C<sub>6</sub> alkyl),

5-membered heteroaryl and , wherein X is -O-, -NH- or -N(CH<sub>3</sub>)-;

R<sup>8a</sup> is 1 to 3 substituents independently selected from the group consisting of hydrogen, halogen, -CF<sub>3</sub>, CF<sub>3</sub>O-, -CN, CF<sub>3</sub>SO<sub>2</sub>-, R<sup>14</sup>-phenyl, -

NHCOCF<sub>3</sub>, 5-membered heteroaryl and , wherein X is as defined above;

R<sup>8b</sup> is 1 to 3 substituents independently selected from the group consisting of hydrogen, halogen, -CF<sub>3</sub>, CF<sub>3</sub>O-, CH<sub>3</sub>C(O)-, -CN, CF<sub>3</sub>SO<sub>2</sub>-,

R<sup>14</sup>-benzyl, CH<sub>3</sub>C(=NOCH<sub>3</sub>), CH<sub>3</sub>C(=NOCH<sub>2</sub>CH<sub>3</sub>), , -NHCOCF<sub>3</sub>, 5-membered heteroaryl and , wherein X is as defined above;

R<sup>9</sup> and R<sup>10</sup> are independently selected from the group consisting of (C<sub>1</sub>-C<sub>6</sub>)alkyl, halogen, -NR<sup>17</sup>R<sup>18</sup>, -OH, -CF<sub>3</sub>, -OCH<sub>3</sub>, -O-acyl, -OCF<sub>3</sub> and -Si(CH<sub>3</sub>)<sub>3</sub>;

R<sup>11</sup> is R<sup>9</sup>, hydrogen, phenyl, -NO<sub>2</sub>, -CN, -CH<sub>2</sub>F, -CHF<sub>2</sub>, -CHO, -CH=NOR<sup>17</sup>, pyridyl, pyridyl N-oxide, pyrimidinyl, pyrazinyl, -N(R<sup>17</sup>)CONR<sup>18</sup>R<sup>19</sup>, -NHCONH(chloro-(C<sub>1</sub>-C<sub>6</sub>)alkyl), -NHCONH((C<sub>3</sub>-

C<sub>1</sub>cycloalkyl(C<sub>1</sub>-C<sub>6</sub>)alkyl), -NHCO(C<sub>1</sub>-C<sub>6</sub>)alkyl, -NHCOCF<sub>3</sub>, -NHCO<sub>2</sub>N((C<sub>1</sub>-C<sub>6</sub>)alkyl)<sub>2</sub>, -NHCO<sub>2</sub>(C<sub>1</sub>-C<sub>6</sub>)alkyl, -N(SO<sub>2</sub>CF<sub>3</sub>)<sub>2</sub>, -NHCO<sub>2</sub>(C<sub>1</sub>-C<sub>6</sub>)alkyl, C<sub>3</sub>-C<sub>10</sub> cycloalkyl, -SR<sup>20</sup>, -SOR<sup>20</sup>, -SO<sub>2</sub>R<sup>20</sup>, -SO<sub>2</sub>NH(C<sub>1</sub>-C<sub>6</sub> alkyl), -OSO<sub>2</sub>(C<sub>1</sub>-C<sub>6</sub>)alkyl, -OSO<sub>2</sub>CF<sub>3</sub>, hydroxy(C<sub>1</sub>-C<sub>6</sub>)alkyl, -CON R<sup>17</sup>R<sup>18</sup>, -CON(CH<sub>2</sub>CH<sub>2</sub>-O-CH<sub>3</sub>)<sub>2</sub>, -OCONH(C<sub>1</sub>-C<sub>6</sub>)alkyl, -CO<sub>2</sub>R<sup>17</sup>, -Si(CH<sub>3</sub>)<sub>3</sub> or -B(OC(CH<sub>3</sub>)<sub>2</sub>)<sub>2</sub>;

R<sup>12</sup> is (C<sub>1</sub>-C<sub>6</sub>)alkyl, -NH<sub>2</sub> or R<sup>14</sup>-phenyl;

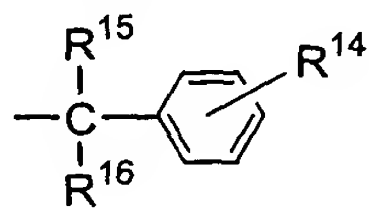
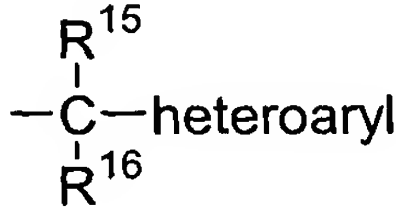
R<sup>14</sup> is 1 to 3 substituents independently selected from the group consisting of hydrogen, (C<sub>1</sub>-C<sub>6</sub>) alkyl, -CF<sub>3</sub>, -CO<sub>2</sub>R<sup>17</sup>, -CN, (C<sub>1</sub>-C<sub>6</sub>)alkoxy and halogen;

R<sup>15</sup> and R<sup>16</sup> are independently selected from the group consisting of hydrogen and C<sub>1</sub>-C<sub>6</sub> alkyl, or R<sup>15</sup> and R<sup>16</sup> together are a C<sub>2</sub>-C<sub>5</sub> alkylene group and with the carbon to which they are attached form a spiro ring of 3 to 6 carbon atoms;

R<sup>17</sup>, R<sup>18</sup> and R<sup>19</sup> are independently selected from the group consisting of H and C<sub>1</sub>-C<sub>6</sub> alkyl; and

R<sup>20</sup> is C<sub>1</sub>-C<sub>6</sub> alkyl or phenyl; or

(2) R<sup>a</sup> is R<sup>8</sup>-phenyl, R<sup>8</sup>-pyridyl or R<sup>8</sup>-thiophenyl;

R<sup>2</sup> is fluorenyl, diphenylmethyl,  or  ;

and R<sup>1</sup>, R<sup>3</sup>, R<sup>4</sup>, R<sup>5</sup>, R<sup>6</sup>, R<sup>7</sup>, R<sup>8</sup>, R<sup>9</sup>, R<sup>10</sup>, R<sup>11</sup>, R<sup>12</sup>, R<sup>13</sup>, R<sup>14</sup>, R<sup>15</sup>, R<sup>16</sup>, R<sup>17</sup>, R<sup>18</sup>, R<sup>19</sup> and R<sup>20</sup> are as defined in (1).

28. (new) A kit comprising in separate containers in a single package pharmaceutical compositions for use in combination to treat solid organ transplant rejection, graft v. host disease, inflammatory bowel disease, rheumatoid arthritis or multiple sclerosis which comprises in one container a pharmaceutical composition comprising an effective amount of a CCR5 antagonist of claim 15 in a pharmaceutically acceptable carrier, and in

separate containers, one or more pharmaceutical compositions comprising an effective amount of an agent useful in the treatment of solid organ transplant rejection, graft v. host disease, inflammatory bowel disease, rheumatoid arthritis or multiple sclerosis in a pharmaceutically acceptable carrier.